UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/678,484	10/03/2003	James J. Rawnick	7162-86	1432

39207 7590 04/04/2005

SACCO & ASSOCIATES, PA
P.O. BOX 30999
PALM BEACH GARDENS, FL 33420-0999

EXAMINER	
HAM, SEUNGSOOK	
ART UNIT	PAPER NUMBER
2817	

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/678,484	RAWNICK ET AL.	
	Examiner	Art Unit	
	Seungsook Ham	2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 11-30* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 6-9, 13-17, and 22-30 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/656,949.

The scope of instant claims is broader then the copending claims. For example, "at least one variable displacement fluid processor for changing a distribution of a fluidic dielectric" is read on the copending claim 1, "at least one fluid control system for adding and removing fluidic dielectric" since "adding and deleting fluidic dielectric" inherently changes a distribution of a fluidic dielectric.

This is a provisional obviousness-type double patenting rejection.

Claims 2-5, 12, and 18-21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-23 of copending Application No. 10/656,949 in view of Moller (US '235).

The instant claims are the same except a second fluidic dielectric is provided to the fluid channel. Moller (fig. 4) discloses an integrated circuit having a variable phase delay is provided by adding a dielectric fluid 170 or mixed with two different dielectric fluids (col. 5, lines 15-29) in a serpentine channel 180 (not shown, col. 4, lines 48-63).

It would have been obvious to one of ordinary skill in the art to provide a second dielectric fluid into the serpentine channel in the copending claims to vary the phase shift since Moller teaches using additional dielectric fluid to vary the phase delay as an alternative way of using a single dielectric fluid.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 5-9, 11, 13-18, and 22-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller (US '235) in view of Smith.

Moller (figs. 1-4) discloses a high frequency tuning circuit comprising: an RF transmission line 40, 150, 160; a structure defining a fluid channel 180 (not shown, see col. 4, line 50-55) coupled to the RF transmission line along at least a portion of a length of the transmission line; a phase delay (or time delay) of the transmission line is selectively varied by changing the distribution of a fluidic dielectric (170) in the fluid channel (col. 3, lines 4-12). It should be noted that Moller shows the fluid channel 180 have a serpentine configuration (see fig. 4, col. 4, lines 48-63, "horizontal" and "vertical" segments connected to each other). Moller does not show a variable displacement fluid processor for changing the distribution of a fluidic dielectric. However, it is inherent that a dielectric fluid control device is necessary to insert the dielectric fluid to the channel. Moller also suggests to using a feedback control to determine a desire dielectric constant of the mixture (col. 5, lines 27-29).

Smith (fig. 3) discloses a phase shifter/delay having a fluidic processor for controlling the fluid distribution to vary the phase shift/delay.

It would have been obvious to one of ordinary skill in the art to use a fluid processor in the device of Moller to control the distribution of the fluidic dielectric as taught by Smith (col. 2, lines 32-54).

Regarding claims 2, 6, 13-15, 18, 25-29, Moller teaches that fluidic dielectric can be mixed with another fluid, e.g., of higher of lower dielectric value as needed (col. 3, lines 35-44). Thus, the first and second fluidic dielectrics have a different permittivity

(i.e., high and low dielectric constants, see also claim 2 recites "at least one of"). Moreover, the specific material for dielectric fluidic is considered as a matter of design choice ferrite and industrial solvent are well known dielectric material for a phase shifter and one can use different dielectric fluidic to obtain a desire response.

Regarding claims 7-9 and 22-24, Moller also shows a solid ceramic substrate 1 coupled to the transmission line. Using a low temperature co-fired ceramic substrate as the dielectric substrate in the modified device of Moller is considered as an obvious design modification to obtain a desire characteristic of the device.

Claims 3, 4, 12, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller (US '235) in view of Smith as applied to claims 1, 2, 11 and 17 above, and further in view of Wollenschlager (US '500).

The modified device of Moller does not show the first and second fluidic dielectrics are immiscible and also separated by an immiscible fluid interface. However, using two non-mixing fluidic dielectrics for varying capacitance (or permittivity) is well known in the art. Wollenschlager (see figure and col. 3, lines 50-65). Therefore, it would have been obvious to one of ordinary skill in the art to use non-mixing fluidic dielectrics as the fluidic dielectrics in the modified device of Moller for simple assembly as taught by Wollenschlager (col. 2, lines 59-68).

Allowable Subject Matter

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Brown et al. (US Pat. App. Pub. '260) is the publish application for US patent application 10/659,949.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seungsook Ham whose telephone number is (571) 272-2405. The examiner can normally be reached on Monday-Thursday, 8:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Seungsook Ham
Primary Examiner
Art Unit 2817

sh